EXECUTIVE SUMMARY

S.1 INTRODUCTION

On January 15, 1998, Pacific Gas and Electric (PG&E) applied (Application No. 98-01-008) to the California Public Utilities Commission (CPUC) for authority to divest (sell) four of its fossil-fueled power plants (Contra Costa, Pittsburg, Hunters Point, and Potrero) and its Geysers geothermal plant through a competitive auction. The four fossil-fueled plants are located in the Bay Area and the Geysers Power Plant is located in Sonoma and Lake counties, 90 miles north of San Francisco. On July 17, 1998, PG&E applied to the CPUC to amend its application, withdrawing the Hunters Point plant from the proposed sale. The divestiture of the Contra Costa, Pittsburg, Potrero, and Geysers plants is now the project proposed by PG&E and analyzed in this Draft EIR.

The divestiture of electric generation facilities (power plants) by state-regulated utilities is a component of the restructuring of the electric industry currently under way in California. Because the CPUC must determine whether the transfer of ownership of these plants would be in the public interest, pursuant to Section 851 of the Public Utilities Code, implementation of the proposed divestiture entails discretionary decision-making by the CPUC. The CPUC issued a Notice of Preparation on February 13, 1998 announcing it would be the Lead Agency for the divestiture project and would prepare an Environmental Impact Report (EIR). The NOP identified environmental areas to be examined in the EIR and requested agency views on the scope of the EIR. Four public meetings were also conducted in locations near the facilities to be divested, in order to obtain comments from residents and local agencies on the scope of the EIR.

S.2 BACKGROUND

Power plants and transmission lines in California historically have been constructed and operated by investor-owned utilities (IOUs) and municipal utilities with identified service areas. The three largest IOUs in California are PG&E, Southern California Edison, and San Diego Gas and Electric. As monopolies, these electric utilities are regulated by the CPUC, which must authorize or review most utility actions and operations. Electricity costs to utility customers are determined through regulatory rate-making decisions of the CPUC, which sets rates for the entire "bundle" of services the utility provides (including electric generation, transmission, distribution, metering, billing, and reliability). Historically, rates have been based principally on the costs of generating and delivering electricity.

Competition in the electric utility industry has developed over the past two decades. The federal Public Utility Regulatory Policy Act (PURPA) opened the electricity industry to competition in

1978. Emerging at a time when the availability of future energy supplies was in question, PURPA was designed to create a market for innovative electric generation technologies that were either renewable or more efficient than the existing large centralized power plants. In 1992, the Federal Energy Policy Act (EPAct) gave to states and regions the responsibility of implementing policies and programs aimed at achieving greater market competition.

In the early 1990s, the Federal Energy Regulatory Commission (FERC) mandated open access in wholesale electric transmission throughout the United States. This made it realistically possible for the first time for major U.S. electric customers to bypass their local utilities for cheaper providers, and encouraged efforts by large California customers to bypass prevailing high IOU electric prices. Meanwhile, the CPUC had undertaken a study of what could be done to lower utility rates in order to help stimulate the state's economy.

On December 20, 1995, the CPUC issued its *Preferred Policy Decision*, D.95-12-063 as modified by D.96-01-009, describing its determination to embrace market competition in the provision of electric services and to offer retail customers choice and flexibility in energy services. The *Preferred Policy Decision* called for the establishment of a statewide independent system operator (ISO) to control and operate the state's electric transmission system, and the creation of a wholesale power pool, or "Power Exchange" (PX), as a market for electric power. The *Preferred Policy Decision* sought to reduce the high IOU electric rates in California by providing retail electric customers with greater choice and fostering price competition among energy generators, and called on the two largest IOUs, PG&E and Edison, voluntarily to divest at least 50 percent of their fossil-fueled generation assets.

Assembly Bill (AB) 1890, signed into law in September 1996 turns much of the CPUC's preferred market structure (described in the *Preferred Policy Decision*) into a legislative mandate to restructure the electric utility industry in California. AB 1890 mandates the separation ("unbundling") of generation, transmission, and distribution services, among other provisions. While AB 1890 does not mandate divestiture of any generating facilities, it authorizes the CPUC to allow plant divestiture to mitigate the utilities' market power. The CPUC believes that increasing the number of electrical suppliers will foster competition in the electric industry. In the first round of plant divestitures following passage of AB 1890, PG&E divested three fossilfueled plants and Southern California Edison divested 12 fossil-fueled plants.

Figure S.1 shows the overall electric system in California; this project involves the sale of specific power plants, not transmission or distribution systems.

S.3 PROJECT DESCRIPTION

As noted, PG&E applied to the CPUC in January 1998 to sell five of its electric generation facilities through a competitive auction. As modified in July 1998, PG&E is seeking to auction the Potrero Power Plant in San Francisco County, the Pittsburg and Contra Costa Power Plants in northern Contra Costa County, and the Geysers Power Plant in Sonoma and Lake Counties. The locations of these plants is shown in Figure S.2.

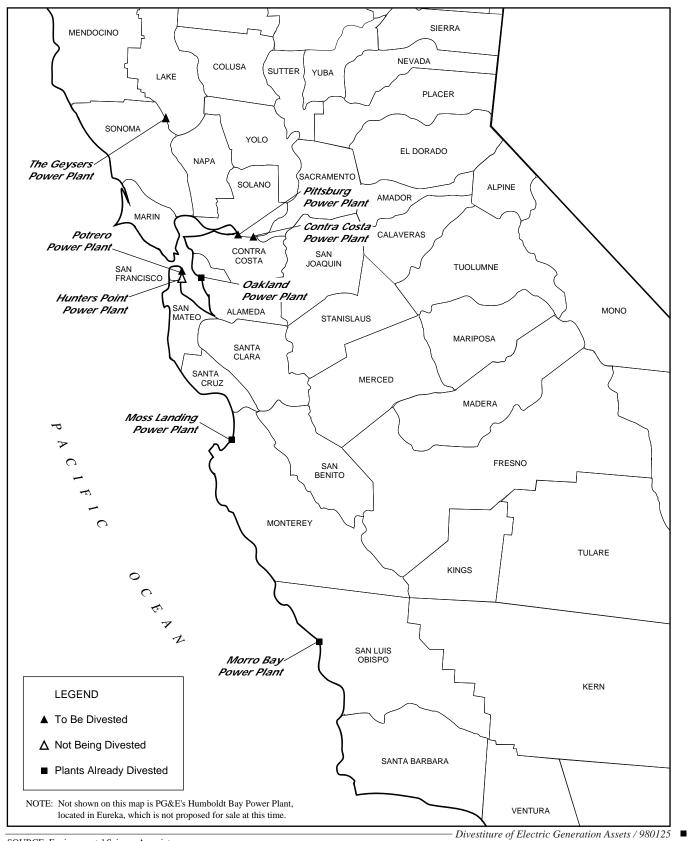
California's Electric Utility Service Areas (1996)

Area is serviced by both Suprise Valley and Pacific Corp Area is serviced by both Suprise Valley only Pacific Corp **GENERATION** Shasta Lake LMUD - Area is serviced by both PSREC & LMUD PG&E Sierra Pacific Power **TRANSMISSION** - Truckee-Donner PUD Healdsburg Kirkwood **SUB-STATION DISTRIBUTION** SCE Note: This figure shows the service areas of California's three Investor Banning Owned Utilities: PG&E, Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E). San Diego Gas and Electric (SDG&E). In addition, this figure shows LADWP (Los Angeles Dept. of Water), LMUD (Lassen Municipal Utility District), MEID (Merced Irrigation District), PSREC (Plumas-Sierra Rural Electric Cooperative), MID (Modesto Irrigation District), SMUD (Sacramento Municipal Utility District) TID (Turlock Irrigation District). Escondido -SDG&E **CUSTOMER**

- Divestiture of Electric Generation Assets / 980125 ■ **Figure S.1**

Electric Power System Model

Figure S.1 Structure of Utility Industry



SOURCE: Environmental Science Associates

Figure S.2
Locations and Divestiture Status of the Pacific Gas and
Electric Company Power Plants

The three fossil-fueled plants, consisting of a mix of 10 steam boiler units and three combustion turbine (CT) units, have a combined net generating capacity of 3,065 megawatts (MW). (See Table 2.1 in the EIR for generating capacity and other information by plant.) Each of these plants generates electricity primarily from steam turbines with boilers fueled by natural gas. The Geysers Power Plant (which constitutes all of PG&E's geothermal generation facilities) has 14 generating units (at 11 sites) with a total net generating capacity of 1,224 MW. Two of the Geysers units are in Lake County and 12 are in Sonoma County. The Lake County units have 246 MW of combined net generating capacity, while the Sonoma County units account for 978 MW of combined generating capacity. Over the last five years, generation from the three fossil-fueled plants accounted for about 45 percent of the PG&E's total fossil-fuel generation, while the Geysers Power Plant accounted for roughly 6.6 percent of the utility's total generation and all of its geothermal energy.

PG&E proposes to sell the plants in four packages: the Pittsburg and Contra Costa plants together (the Delta plants), the Potrero Power Plant, the Geysers units in Sonoma County, and the Geysers units in Lake County. Prospective buyers may submit bids on one or more of the plants offered for divestiture, with the exception that they must bid on the Delta plants as one package, and must bid on each set of Geysers units (the Sonoma County units and the Lake County units) separately from the other set and from any other plant.

Upon approval of the sale by the CPUC, PG&E would transfer to the new owners all facilities, equipment, permits (e.g., air and water), land interests and other entitlements required for continued operation of the plants. PG&E will retain facilities and equipment at each site that pertain to transmission or distribution operations. PG&E will also retain certain liabilities for existing contamination of soil and groundwater and will be responsible for conducting remediation activities of such contamination after the sales. Other than minor construction activities that may be necessary to separate generation from transmission and distribution facilities, the proposed divestiture does not directly involve any planned expansion, modification or dismantling of existing facilities and structures. The Purchase and Sale agreement for each plant requires a deed restriction that prevents the new owner from using the site for residential or other sensitive uses. The buyers of the plants will be required to enter into suitable "must-run" contracts with the Independent System Operator (ISO). The proposed bidding, sale and regulatory approval process is designed to complete the divestiture of the plants by the fourth quarter of 1998 or as soon thereafter as possible.

This is PG&E's second round of power plant divestitures. Last year, PG&E auctioned its Morro Bay (1,478 MW), Moss Landing (1,002 MW), and Oakland (165 MW) Power Plants to affiliates of Duke Energy Power Services, Inc. The sale of those three plants was approved by the CPUC on December 16, 1997, and closed on July 1, 1998. If PG&E's current divestiture application is approved and the four plants sold, PG&E will still own 112 hydroelectric units (3,910 MW), Hunters Point Power Plant (423 MW), Humboldt Bay Power Plant (105 MW), three mobile combustion turbines (45 MW) and the Diablo Canyon Nuclear Power Plant (2,160 MW). In May 1998, PG&E announced its intention to sell or spin off to stockholders its hydroelectric assets, as well; no formal divestiture application has been filed to date.

S.4 APPROACH TO ANALYSIS

This EIR does not analyze effects associated with the changes brought about by restructuring of the electric industry under AB 1890, since such changes have already been mandated and are occurring now. Rather, the EIR assumes the existence of the restructured market, and analyzes potential impacts associated with projected plant operations under new owners in the restructured market as compared to PG&E's projected plant operations (if the plants were not sold) in the restructured market. The EIR considers whether PG&E's proposed divestiture would likely lead to significant effects on the environment as a result of either (1) physical changes associated directly with the ownership transfer, or (2) distinguishable operational changes at the plants proposed for sale, that are different or greater than would occur solely due to restructuring. The following types of changes were considered in evaluating whether divestiture would result in changes that could produce environmental impacts:

- Amounts of Energy Generated at Each Divested Plant and Other Developed and Undeveloped Sites in California and the Western Region; Amount and Timing of Construction, Refurbishment, Repowering, or Retirements of Divested Plants, or Other Developed or Undeveloped Sites in California and the Western Region;
- Maintenance Practices at Each Divested Plant;
- Pollution Control Technologies Employed or Installed by New Owners;
- *Employment Levels and Related Factors;*
- Extent and Character of Land Use;
- Approach to Environmental Cleanup; and
- Permit Transfers for Divested Plants.

Having considered these potential changes, it was concluded that new owners of the fossil-fueled plants would tend to operate at higher levels than PG&E because of the following three factors: (1) the portfolio effect, which is the availability to PG&E of its portfolio of electricity-generating assets, (2) fuel procurement practices, such as the possibility that new owners would purchase natural gas at a lower cost per unit or in a different fashion than would PG&E, and (3) the ability of new owners immediately to participate in the direct access market while PG&E must initially sell all of its power through the PX.

The manner in which operations at the Geysers geothermal plant could change with divestiture depends on the identity of the new owners. PG&E has recently moved many Geysers units from a baseload (i.e. constant) mode to more cyclical operations. If a third-party entity with no ownership interest in the underlying steam field purchases the Geysers units, it is reasonably foreseeable that such new owner would pay a steam price similar to that paid by PG&E under its contracts with the steam field owners and operate the units in a manner similar to PG&E's operation. If, on the other hand, the current steam field owners purchase the Geysers units, it is foreseeable that the plant would be operated more either in a baseload manner or during peak periods to increase dependable capacity, thereby increasing generation from the Geysers plant.

The manner in which PG&E would be expected to operate the plants in 1999 is considered to be the environmental baseline ("Baseline Scenario") for purposes of measuring the impacts of the project. In order conservatively to depict the greatest potential project impacts in 1999, the

Baseline Scenario is compared to an analytically-derived maximum capacity (the "Analytical Maximum") at which each of the plants proposed to be sold could operate in 1999.

1999 BASELINE

In most respects, the 1999 PG&E Baseline Scenario does not differ from the existing environmental setting. However, in order to reflect the ongoing changes in the electric industry resulting from restructuring (which changes will occur with or without the divestiture project), it is reasonable and informative to project the manner in which PG&E would operate the plants in 1999 if the plants were not sold. The major assumptions used in the computer simulation of the Baseline Scenario include the following:

- 1. PG&E continues to own and operate the Potrero, Pittsburg, Contra Costa and Geysers plants, obtaining revenue through reliability contracts with the Independent System Operator (ISO) and by selling power from the facilities through the Power Exchange (PX).
- 2. Both the PX and ISO continue to commit and dispatch the plants based on minimum variable cost of operation, consistent with the requirements of the San Francisco Operating Criteria (SFOC) and the Bay Area Reliability Requirements (BARR) and local distribution system voltage support requirements.
- 3. PG&E installs planned emission control equipment and continues to operate the three fossil-fueled plants proposed for sale and the Hunters Point Power Plant to keep total combined NOx emissions from its four Bay Area steam boiler plants below the NOx "bubble" specified by the Bay Area Air Quality Management District.
- 4. The Contra Costa and Pittsburg Power Plants are operated in full compliance with existing Delta Water Quality Maintenance Requirements including special, non-economic operation of Pittsburg Unit 7 during the period May through mid-July.
- 5. San Francisco's hourly demand loads in 1999 employ the 1997 actual load shape, plus assumed continuation of the average annual rate of load growth observed between 1991 and 1997.
- 6. Geothermal steam availability at the Geysers continues its observed slow rate of decline, as modified to reflect implementation of the Lake County wastewater injection project.
- 7. PG&E's Geysers units are economically dispatched, per the steam prices and operational flexibility in existing steam supply contracts.
- 8. The CEC's recently adopted forecast of natural gas prices for all regions of California are employed for all gas-fired plants, and the CEC's companion inflation forecast series is used to adjust other generation costs, including maintenance.

1999 ANALYTICAL MAXIMUM

The year 1999 was selected as the project impact year because (1) if the project is approved, the plants could be sold by 1999; (2) 1999 will be the first full year under restructuring of the electric industry in California; and (3) PG&E is currently precluded from selling power outside the Power

Exchange and could be precluded from that activity until March 31, 2002. New owners, on the other hand, could immediately take advantage of the direct access market. The ability of new owners to participate immediately in the direct access market is a key factor in this EIR's assumption that new owners will tend to operate at higher levels than would PG&E. Thus, a year prior to 2003—when PG&E also will be able to sell power directly, thereby moving its operational characteristics closer to those of a new owner—likely represents the greatest potential for environmental change caused by divestiture.

It is expected that divestiture of the power plants will create a tendency for new owners to operate the plants at higher levels than in the 1999 Baseline Scenario. However, it is not possible to determine with any precision at which plants operations would increase, or the degree to which operations would increase at any particular plant. The 1999 Analytical Maximum Scenario calculated by the computer model is intended to capture the maximum possible change in operations that could occur from divestiture.

The Analytical Maximum capacity factors for the four plants represent the highest capacities at which the plants could operate, taking into account limiting factors such as the rated capacities of the units; scheduled and forced outages of units for maintenance; contractual limitations, including must-take contracts that favor power generated by qualifying facilities (QFs); and demand constraints (i.e., the finite demand for electricity at any particular time on any given day). The 1999 Analytical Maximum Scenario reflects assumptions 2 through 8 outlined above for the 1999 Baseline Scenario and, additionally, assumes for the fossil-fueled plants that natural gas could be purchased in unlimited quantities at a 25 percent discount from the least expensive supply of gas assumed to be available to fuel California power plants (i.e., the natural gas supplied for the Cool Water plant). In order to be conservative, the EIR's project impact analyses assume that the new owners would operate the divested plants at the 1999 Analytical Maximum capacities.

Table S.1 presents capacity factor estimates (the percentage of total plant capacity) for operations of the four plants in a restructured setting in 1999 if they were retained by PG&E ("1999 Baseline"), the capacity factor estimates for operation of the four plants in 1999 at their Analytical Maximum capacities, if they were sold, and the capacity factor estimates for the 2005 Cumulative Analytical Maximum Scenario.

S.5 IMPACTS AND MITIGATION MEASURES

IMPACTS SUMMARY

Table S.2, beginning on page S-28 presents a summary of the project's environmental impacts, the level of significance of the impacts, and identified mitigation measures. Impacts and mitigation measures are listed by environmental topic.

TABLE S.1
PROJECTED POWER PLANT ANNUAL CAPACITY FACTORS^a

						Plants with	Lowest Natural Gas	Price (1999)		2005 Cumulative
DI 4	WT *4	TD.	т	Net Capacity (MW) ^b	1999 Baseline	A II DI	Contra Costa	D 4	1999 Analytical	Analytical Maximum ^d
Plant	Unit	Type	Fuel	(IVI VV)	(No Project)	All Plants	and Pittsburg	Potrero	Maximum ^C	Maximum
Potrero	3	ST	NG	207	41	68	41	76	76	64
	4	CT	DF	52	3	3	3	3	3	9
	5	CT	DF	52	2	2	2	2	2	8
	6	CT	DF	52	1	1	1	1	1	7
	Annu	ıal Plant Ca	pacity	363 ^e	25	39	24	44	44	40
New 480 MW S.F. Plant		CC	NG	480	NA	NA	NA	NA	NA	91
Contra Costa	6	ST	NG	340	32	71	71	32	71	70
contra costa	7	ST	NG	340	40	88	88	40	88	69
	Annu	ıal Plant Ca		680 e	36	80	79	36	80	70
Pittsburg	1	ST	NG	163	23	43	43	23	43	45
	2	ST	NG	163	23	68	69	23	69	70
	3	ST	NG	163	33	76	76	33	76	retired
	4	ST	NG	163	28	66	66	28	66	retired
	5	ST	NG	325	39	81	80	39	81	60
	6	ST	NG	325	40	88	87	40	88	76
	7	ST	NG	682	27	57	58	27	58	71
	Annu	ıal Plant Ca	pacity	1984 ^e	31	68	68	31	68	56/67 f
Geysers	5	G	GS	39/39	68	58	59	68	58	82
- 3	6	G	GS	39/39	68	58	58	67	58	81
	7	G	GS	38/37	72	65	65	71	65	85
	8	G	GS	38/37	72	64	65	71	64	86
	9	G	GS	32/32	54	47	49	54	47	73
	10	G	GS	32/32	54	47	49	54	47	73
	11	G	GS	56/56	46	36	38	45	36	94
	12	G	GS	39/39	76	65	68	77	65	85
	13	G	GS	73/69	95	94	94	94	94	95
	14	G	GS	61/61	81	70	73	81	70	87
	16	G	GS	73/69	94	94	94	94	94	94
	17	G	GS	47/47	78	70	71	77	70	89
	18	G	GS	58/62	82	73	75	83	73	88
	20	G	GS	44/46	78	67	70	78	67	86
	Annu	ıal Plant Ca	pacity	669/665 ^e	75	68	69	75	68	87

TABLE S.1 (Continued) PROJECTED POWER PLANT ANNUAL CAPACITY FACTORS^a

NOTE: The capacity factors were derived using the SERASYM™ unit-specific, California-wide data set, which was processed by the SERASYM™ production cost model to forecast plant operations.

UNIT TYPES: CT combustion turbine FUELS: NG natural gas with residual oil backup NA = not applicable

ST steam turbine DF distillate fuel oil
G geothermal steam GS geothermal steam

CC combined cycle

- a Capacity factor is the ratio (expressed as a percentage) of operations of a unit or plant to the rated capacity of the unit or plant.
- b Although the net capacity of Unit 7 at the Pittsburg Power Plant is listed as 720 MW in PG&E's PEA, other sources (including the Master Must-Run Agreement between PG&E and the ISO and the Bay Area Reliability Dispatch Requirements) identify the unit's maximum net capacity as 682 MW. Based on this information, the SERASYM™ model results used in this EIR reflect the 682 MW factor.
 - The net capacity of the Geysers Power Plant is actually 1,224 MW (see Table 2.1 in Section 2, Project Description). The net capacities shown here are the predicted capacities for the plant based on projected steam availability in 1999 and 2005, respectively.
- c For the fossil-fueled plants, the 1999 analytical maximum capacity factor for each unit is the highest of three model runs shown immediately to the left in which (1) all three plants receive equally low gas prices, (2) the Contra Costa and Pittsburg plants receive the lowest gas price, and (3) the Potrero plant receives the lowest gas price. For the Geysers plant, the 1999 analytical maximum capacity factor is the lowest of the three model runs, since such lower operations may result in environmental impacts from steam stacking.
- d This scenario reflects the replacement of PG&E's Hunters Point Power Plant in San Francisco with a new 480 MW power plant in combination with divestiture and other cumulative projects. The 2005 cumulative analytical maximum was modeled using only the "All Plants" case because model sensitivity runs showed these results to be very similar to the runs that had the lowest natural gas price going to just the Contra Costa and Pittsburg plants or the Potrero plant.
- e Net capacity for the entire plant.
- The total net generating capacity of the Pittsburg Power Plant would decrease in the future due to the retirement of certain generating units. In order to meaningfully portray changes in generation, two annual plant capacity numbers are presented. The first number reflects the annual plant capacity factor based upon the current total net generating capacity of the plant (where all seven units are operational), which is 1,984 MW. The second number reflects the annual plant capacity based upon the combined net generating capacity of the units that are assumed to operate in 2005.

SOURCE: Sierra Energy and Risk Assessment, Inc., and ESA, 1998.

S.6 CUMULATIVE IMPACTS

2005 CUMULATIVE ANALYTICAL MAXIMUM

This EIR analyzes cumulative impacts as of the year 2005. The year 2005 was selected for cumulative analysis primarily because all air quality controls for NOx, as required by Bay Area Air Quality Management District Regulation 9, Rule 11, would be in place by that year. The cumulative analysis continues to assume that the owners of the divested plants would operate the plants at their analytical maximum capacities, in order conservatively to depict the greatest potential cumulative impacts in 2005.

The EIR considers the cumulative effects of a multitude of projects and factors, including proposed new power plants, proposed upgrades in the electricity transmission system, projected increases in demand for electricity, planned or proposed wastewater injection projects at the Geysers plant, and local projects proposed in the vicinities of the power plants. Many of these projects involve separate, project-specific environmental review and require governmental permits and approvals in order to be implemented. Under the terms of a July 9, 1998, agreement between PG&E and the City and County of San Francisco, PG&E agreed to withdraw the Hunters Point Power Plant from the auction process by which it proposes to sell the other four plants, and agreed permanently to shut down the Hunters Point plant as soon as the facility is no longer needed to sustain electric reliability in San Francisco and the surrounding area, and the Federal Energy Regulatory Commission (FERC) has authorized PG&E to terminate PG&E's Reliability Must Run Contract for the facility. The agreement provides that the City and PG&E will advocate the expeditious development of generation and/or transmission facilities to replace the Hunters Point plant, among other terms. In light of that agreement, the cumulative analysis also assumes that the Hunters Point Power Plant, located in the City of San Francisco, is no longer operating by 2005 and that new generation facilities (totaling 480 MW) have been constructed and are operating somewhere north of the Martin Substation (in San Mateo County) in order to replace the Hunters Point plant and to meet anticipated increases in electricity demand.

In order to portray the maximum cumulative potential for environmental change associated with the project, the cumulative impacts analysis compares the 2005 Cumulative Scenario to the 1999 Baseline Scenario. The modeled estimates of cumulative impacts were derived in the same manner as those of the 1999 Analytical Maximum Scenario, with the following additional key assumptions:

- 1. The Hunters Point Power Plant is retired, and replaced with a new plant consisting of two 240 MW units (for a total of 480 MW) to satisfy existing electricity needs, plus the projected cumulative increase in demand for electricity within the City and County of San Francisco.
- 2. New plant owners complete all planned air emission control improvements as listed in Table B-2 of PG&E's Proponent's Environmental Assessment for the three fossil-fueled plants, including the retirement of Pittsburg Power Plant Units 3 and 4. Although listed by PG&E as being retired by 2005, Pittsburg Units 1 and 2 are retained for voltage support,

- with a selective catalytic reduction (SCR) system installed on Pittsburg Unit 2 in order to comply with Bay Area air quality limits in 2005.
- 3. New generation is added in San Diego before 2005 to alleviate the predicted capacity shortage in that region.
- 4. New generation currently under construction in Nevada is added and the High Grove and San Bernardino power plants in Southern California are repowered consistent with CEC siting requirements and South Coast Air Quality Management District permit procedures.
- 5. The owner of the El Segundo Generating Station in southern California produces 70 MW of generation at all times to replace the base-load in the existing El Segundo refinery adjacent to the power station.
- 6. Projected transmission upgrades, described in detail in Chapter 5, Cumulative Impacts, are in place.
- 7. The two proposed wastewater injection projects described in detail in Chapter 5, Cumulative Impacts, are being implemented, and have helped to stabilize generation capacity at the Geysers plant.

Modeled estimates were also developed for two cumulative variants. One of these assumes that the Hunters Point Power Plant is replaced by upgraded transmission facilities on the San Francisco Peninsula, together with construction of a new 240 MW generating facility to serve electricity needs within San Francisco. The other variant assumes that the proposed Pittsburg District Energy Facility is constructed in the City of Pittsburg.

Table S.3 presents annual plant capacity factor estimates for each of the four plants being divested under the various 2005 cumulative scenarios. The computer modeling of the 2005 Cumulative Analytical Maximum Scenario shows that the project, in conjunction with other cumulative projects, would reduce the operational levels at the Potrero, Contra Costa, and Pittsburg Power Plants from that of divestiture alone. This is because the assumed 480 MW facility would be efficient and would operate at a relatively high annual capacity factor (91 percent), thereby offsetting generation from the three fossil-fueled plants proposed for sale. Therefore, the project-specific impacts analyzed in Chapter 4 of this EIR would address the worst-case impacts that are related to operational levels at these plants.

Table S.4 summarizes the cumulative impacts of the project under the 2005 Cumulative Analytical Maximum, together with current and proposed projects in the communities and counties surrounding the power plants. Where the cumulative scenario would have no impacts different in degree or nature from the project itself, no impacts are identified (i.e., the project impacts analyzed in Chapter 4 of this EIR and summarized in Table S.2 are not restated).

TABLE S.3
PROJECTED CUMULATIVE ANALYSIS POWER PLANT ANNUAL CAPACITY FACTORS ^a

								Cumulative Scenarios	
Plant	Unit	Туре	Fuel	Net Capacity (MW) ^b	1999 Baseline (No Project)	1999 Analytical Maximum ^c	2005 Cumulative Analytical Maximum ^d	2005 Cumulative Analytical Maximum- Variant 1 ^e	2005 Cumulative Analytical Maximum- Variant 2 ^f
Potrero	3	ST	NG	207	41	76	64	63	62
	4	CT	DF	52	3	3	9	10	8
	5	CT	DF	52	2	2	8	10	7
	6	CT	DF	52	1	1	7	8	6
	Annu	ıal Plant Ca	pacity	363 ^g	25	44	40	40	38
New 480 MW S.F. Plant		CC	NG	480	NA	NA	91	NA	90
New 240 MW S.F. Plant		CC	NG	240	NA	NA	NA	91	NA
PDEF Plant		CC	NG	450	NA	NA	NA	NA	90
Contra Costa	6	ST	NG	340	32	71	70	71	70
	7	ST	NG	340	40	88	69	69	68
	Annu	ıal Plant Ca	pacity	680 ^g	36	79	70	70	69
Pittsburg	1	ST	NG	163	23	43	45	45	retired
	2	ST	NG	163	23	69	70	72	retired
	3	ST	NG	163	33	76	retired	retired	retired
	4	ST	NG	163	28	66	retired	retired	retired
	5	ST	NG	325	39	80	60	60	59
	6	ST	NG	325	40	87	76	76	75
	7	ST	NG	682	27	58	71	73	71
	Annu	ıal Plant Ca	pacity	1984 ^g	31	68	56/67 ^h	57/68 ^h	46/69 ^h
Geysers	5	G	GS	39/39	68	58	82	83	80
	6	G	GS	39/39	68	58	81	83	79
	7	G	GS	38/37	72	65	85	86	83
	8	G	GS	38/37	72	64	86	86	83
	9	G	GS	32/32	54	47	73	75	71
	10	G	GS	32/32	54	47	73	74	70
	11	G	GS	56/56	46	36	94	95	95
	12	G	GS	39/39	76	65	85	85	83
	13	G	GS	73/69	95	94	95	95	95
	14	G	GS	61/61	81	70	87	89	86
	16	G	GS	73/69	94	94	94	95	94
	17	G	GS	47/47	78	70	89	89	87

TABLE S.3 (continued) PROJECTED CUMULATIVE ANALYSIS POWER PLANT ANNUAL CAPACITY FACTORS ^a

							Cumulative Scenarios				
Plant	Unit	Туре	Fuel	Net Capacity (MW) ^b	1999 Baseline (No Project)	1999 Analytical Maximum ^c	2005 Cumulative Analytical Maximum ^d	2005 Cumulative Analytical Maximum- Variant 1 ^e	2005 Cumulative Analytical Maximum- Variant 2 ^f		
Geysers (cont.)	18 20	G G	GS GS	58/62 44/46	82 78	73 67	88 86	89 87	86 84		
	Annu	ıal Plant Ca	pacity	669/665 ^g	75	68	87	88	86		

NOTE: The capacity factors were derived using the SERASYMTM unit-specific, California-wide data set, which was processed by the SERASYMTM production cost model to forecast plant operations.

UNIT TYPES: CT combustion turbine FUELS: NG natural gas with residual oil backup NA = not applicable

CC combined cycle

a Capacity factor is the ratio (expressed as a percentage) of operations of a unit or plant to the rated capacity of the unit or plant.

- b Although the net capacity of Unit 7 at the Pittsburg Power Plant is listed as 720 MW in PG&E's PEA, other sources (including the Master Must-Run Agreement between PG&E and the ISO and the Bay Area Reliability Dispatch Requirements) identify the unit's maximum net capacity as 682 MW. Based on this information, the SERASYM™ model results used in this EIR reflect the 682 MW factor.
 - The net capacity factor of the Geysers Power Plant is actually 1,224 MW (see Table 2.1 in Section 2, Project Description). The net capacities shown here are the predicted capacities for the plant based on projected steam availability in 1999 and 2005, respectively.
- c In accordance with PG&E's July 9, 1998 agreement with the City and County of San Francisco, this scenario assumes that PG&E would continue to operate its Hunters Point Power Plant at the minimum level necessary to ensure continued electric reliability in San Francisco.
- d This scenario reflects the replacement of PG&E's Hunters Point Power Plant with a new 480 MW power plant in combination with divestiture and other cumulative projects. Section 5.3.2 discusses potential environmental impacts under this scenario.
- e This scenario reflects the replacement of PG&E's Hunters Point Power Plant with a new 240 MW power plant (as opposed to a 480 MW power plant) in conjunction with a new 230 kV transmission line into San Francisco in combination with divestiture and other cumulative projects. Section 5.3.3 discusses the potential environmental impacts under this scenario.
- f This scenario is the same as the 2005 Cumulative Analytical Maximum scenario, but also includes the retirement of Units 1 and 2 at the Pittsburg Power Plant and operation of the proposed Pittsburg District Energy Facility (PDEF) in Pittsburg. Section 5.3.4 discusses the potential environmental impacts under this scenario.
- g Net capacity for the entire plant.
- The total net generating capacity of the Pittsburg Power Plant would decrease in the future due to the retirement of certain generating units. In order to meaningfully portray changes in generation, two annual plant capacity numbers are presented. The first number reflects the annual plant capacity factor based upon the current total net generating capacity of the plant (where all seven units are operational), which is 1,984 MW. The second number reflects the annual plant capacity based upon the combined net generating capacity of the units that are assumed to operate in 2005.

SOURCE: Sierra Energy and Risk Assessment, Inc., and ESA, 1998.

TABLE S.4 CUMULATIVE IMPACTS CONSIDERING OTHER LOCAL PROJECTS^a

	Potrero	Contra Costa	Pittsburg	The Geysers
Land Use and Planning	NS	NS	NS	NS
Population and Housing	NS	Ø	Ø	NS
Geologic Problems	Ø	Ø	Ø	NS
Water	S/M	Ø	Ø	NS
Air Quality ^b	S/M	NS	NS	NS
Transportation and Circulation	NS	NS	NS	NS
Biological Resources	S/M	Ø	Ø	Ø
Energy and Mineral Resources	Ø	Ø	Ø	В
Hazards	Ø	Ø	Ø	Ø
Noise	S/M	Ø	Ø	NS
Public Services	NS	Ø	Ø	NS
Utilities and Services Systems	Ø	Ø	Ø	В
Aesthetics	S/M	Ø	Ø	Ø
Cultural Resources	NS	Ø	$\widetilde{\varnothing}$	$\widetilde{\varnothing}$
Recreation	NS	Ø	Ø	NS

Significance levels identified in this table reflect the levels of significance after all mitigation measures are applied:

Beneficial cumulative impact.

S/UN Cumulative impact is significant and unavoidable.

Cumulative impact is less than significant; no mitigation is warranted. NS

NS(M) Cumulative impact is less than significant; supplemental mitigation is identified.

S/M Potentially significant cumulative impact; impact may be reduced to less than significant by mitigation measures identified during future CEC environmental review and permitting. Cumulative impact would not occur.

UKN = Unknown level of impact.

S.7 ALTERNATIVES TO THE PROJECT

This EIR considers three alternatives that provide a range of reasonable alternatives to the proposed project:

Alternative One: No Project

This alternative assumes that PG&E would continue its ownership of all of the power plants. As a consequence, the company could operate the plants at any level up to their Analytical Maximum capacities, but would more likely operate them as projected for the 1999 Baseline Scenario and the 2005 No Project Cumulative Scenario.

Refer to Section 4.5, Air Quality, for a discussion of cumulative air quality impacts.

• Alternative Two: Fossil-fueled Power Plant Bundling Scenarios

The proposed project provides for the sale of three fossil-fueled power plants, with the Potrero Power Plant sold individually and the Contra Costa and Pittsburg Power Plants sold together (because of the need to coordinate operations). This alternative considers two different groupings (or bundles) for the sale of the plants:

- 2A. All three fossil-fueled power plants (Contra Costa, Pittsburg, and Potrero) would be sold together to a single purchaser.
- 2B. Each of the three fossil-fueled power plants (Potrero, Contra Costa, and Pittsburg) would be sold separately to individual purchasers (i.e., Contra Costa and Pittsburg would not be bundled).
- Alternative Three: Sale of the Geysers Plant to the Steam Field Operators

In this alternative, all units of the Geysers Power Plant would be sold to the steam field operators. This alternative would allow coordination between operations of the generating units and the steam fields, potentially reducing "steam stacking" and consequent environmental impacts. Steam stacking is caused by the build-up of steam pressure in the pipelines when power plants are idled for maintenance or other reasons. Unabated steam releases may be necessary to relieve the built up pressure, thus increasing air emissions.

Table S.5 presents the capacity factor estimates for each of the four plants proposed to be sold under the 1999 and the cumulative 2005 scenarios, as well as for Alternatives 1 and 3. Modeling was not done for Alternative 2, fossil-fueled power plant bundling scenarios, as it was deemed unnecessary.

The computer modeling results show that under Alternatives 1 and 3, the fossil-fueled plants would operate considerably less than the Analytical Maximum derived for the project in both 1999 and 2005. The Geysers plant would operate more than the Analytical Maximum under both Alternatives 1 and 3, with the highest capacity factors under Alternative 3. Under Alternative 2A, the sale of the three plants to a single buyer, the new owner would have less tendency to operate the plants close to (or at) the Analytical Maximum than in the bundling scenario assumed for the project. Conversely, under Alternative 2B, each of the fossil-fueled plants sold to separate buyers, the new owners would have a greater tendency to operate toward the Analytical Maximum, but individual plant operations would not exceed the Analytical Maximum for either 1999 or 2005.

Table S.6 summarizes by topic area the environmental impacts of each alternative and compares the impacts of each of the alternatives with those of the project. The environmentally superior alternative to the project is a combination of Alternative 2A, the bundling of Potrero, Contra Costa and Pittsburg and Alternative 3, the sale of the Geysers plant to the steam field operators. The bundling of the three fossil fuel plants would have a tendency to lower overall generation of these plants compared to the project. The magnitude of the impacts would be less than with the project, but the levels of significance of the impacts would be identical to the project. Under Alternative 3, the sale of the Geysers units to the steam field owners would allow for coordination of generating unit operations with steam field characteristics and could effectively reduce or

TABLE S.5
PROJECTED ALTERNATIVES ANALYSIS POWER PLANT CAPACITY FACTORS^a

						Capacity		Scenario/Analysis (percent)	
Plant	Unit	Туре	Fuel	Net Capacity Fuel (MW) ^b	1999 Baseline and Alternative 1 (No Project)	1999 Analytical Maximum (Project)	2005 Cumulative Analytical Maximum ^C (Project)	2005 Alternative 1 (No Project)	1999 Alternative 3 (Geysers Steam Owners)	2005 Alternative 3 (Geysers Steam Owners)
Potrero	3	ST	NG	207	41	76	64	34	43	34
	4	CT	DF	52	3	3	9	10	3	9
	5	CT	DF	52	2	2	8	8	2	8
	6	CT	DF	52	1	1	7	8	1	7
	Annual P	lant Capaci	ity	363 ^d	25	44	40	23	25	23
New 480 MW S.F. Plant		CC	NG	480	NA	NA	91	91	NA	90
Contra Costa	6	ST	NG	340	32	71	70	45	32	45
	7	ST	NG	340	40	88	69	46	40	46
	Annual F	lant Capaci	ity	680 ^d	36	79	70	46	36	46
Pittsburg	1	ST	NG	163	23	43	45	21	23	21
	2	ST	NG	163	23	69	70	36	23	36
	3	ST	NG	163	33	76	retired	retired	33	retired
	4	ST	NG	163	28	66	retired	retired	28	retired
	5	ST	NG	325	39	80	60	42	39	42
	6	ST	NG	325	40	87	76	47	40	47
	7	ST	NG	682	27	58	71	49	27	50
	Annual F	lant Capaci	ity	1984 ^d	32	68	56/67 ^e	36/43 ^e	31	36/44 ^e
Geysers	5	G	GS	39/39	68	58	82	87	94	93
	6	G	GS	39/39	68	58	81	86	94	92
	7	G	GS	38/37	72	65	85	89	91	95
	8	G	GS	38/37	73	64	86	89	91	95
	9	G	GS	32/32	54	47	73	80	88	89
	10	G	GS	32/32	54	47	73	80	87	89
	11	G	GS	56/56	46	36	94	94	93	95
	12 13	G G	GS GS	39/39 73/69	76	65 94	85	89 95	90 94	92
	13 14		GS	61/61	95 81	94 70	95 87	95 90	94 92	95 02
	14 16	G G	GS GS	61/61 73/69	81 94	70 94	87 94	90 94	92 94	93 95
	17	G	GS	73/69 47/47	78	70	94 89	94 92	94 94	95 95
	18	G	GS	58/62	82	73	88	92 91	94 92	93 93
	20	G	GS	44/46	78	67	86	89	92 91	93
		Plant Capaci		669/665 ^d	75	68	87	90	92	93

TABLE S.5 (Continued) PROJECTED ALTERNATIVES ANALYSIS POWER PLANT CAPACITY FACTORS^a

NOTE: The capacity factors were derived using the SERASYM™ unit-specific, California-wide data set, which was processed by the SERASYM™ production cost model to forecast plant operations.

UNIT TYPES: CT combustion turbine FUELS: NG natural gas with residual oil backup NA = not applicable

ST steam turbine DF distillate fuel oil
G geothermal steam GS geothermal steam

CC combined cycle

- a Capacity factor is the ratio (expressed as a percentage) of operations of a unit or plant to the rated capacity of the unit or plant.
- b Although the net capacity of Unit 7 at the Pittsburg Power Plant is listed as 720 MW in PG&E's PEA, other sources (including the Master Must-Run Agreement between PG&E and the ISO and the Bay Area Reliability Dispatch Requirements) identify the unit's maximum net capacity as 682 MW. Based on this information, the SERASYM™ model results used in this EIR reflect the 682 MW factor. The net capacity of the Geysers Power Plant is actually 1,224 MW (see Table 2.1 in Section 2, Project Description). The net capacities shown here are the predicted capacities for the plant based on projected steam availability in 1999 and 2005, respectively.
- c This scenario reflects the replacement of PG&E's Hunters Point Power Plant in San Francisco with a new 480 MW power plant in combination with divestiture and other cumulative projects.
- d Net capacity for the entire plant.
- e The total net generating capacity of the Pittsburg Power Plant would decrease in the future due to the retirement of certain generating units. In order to meaningfully portray changes in generation, two annual plant capacity numbers are presented. The first number reflects the annual plant capacity factor based upon the current total net generating capacity of the plant (where all seven units are operational), which is 1,984 MW. The second number reflects the annual plant capacity based upon the combined net generating capacity of the units that are assumed to operate in 2005.

SOURCE: Sierra Energy and Risk Assessment, Inc., and ESA, 1998.

TABLE S.6 IMPACTS AND SIGNIFICANCE LEVELS OF THE PROJECT AND ALTERNATIVES^{a,b}

			Alt. 2		Alt. 3
	Proposed	No		t Bundling	Geysers
Impact	Project	Project	2a	2b	
Land Use and Planning					
4.1-1: The proposed project is consistent with adopted general plan policies, land use designations and zoning, and thus would not conflict with adopted environmental plans and goals of the community where it is located. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
4.1-2: The four power plants being considered for divestiture are existing land uses that would remain in the same locations. Therefore, the project would not disrupt or divide the physical arrangement of any established community. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
4.1-3: The project would not convert prime agricultural land to non-agricultural uses, or impair the agricultural productivity of prime agricultural land. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
Population and Housing					
4.2-1: The proposed project would not induce substantial growth or concentration of population. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
4.2-2: The proposed project would not displace a large number of people. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
Geologic Problems					
4.2-3: Minor construction activities resulting from the project (e.g., fences and	NS	NS (L)	NS (E)	NS (E)	NS (E)

a Significance levels for the project and the alternatives reflect the levels of significance after all mitigation measures are applied.

This table presents a comparison of environmental impacts that were identified under the proposed project with each of the alternatives. Additional environmental impacts that would potentially occur under each the alternatives are presented in the text discussion.

				Alt. 2		Alt. 3
		Proposed	No	Power Plan	nt Bundling	Geysers
Impa	et	Project	Project	2a	2b	
	site remediation) could cause soil disturbance. (Less than Significant)					
4.3-2:	Potential operational changes due to the transfer in ownership of the Potrero, Pittsburg, and Contra Costa Power Plants would not create geologic problems. (Less than Significant)	NS	NS (L)	NS (E)	NS (E)	NS (E)
4.3-3:	The change in ownership of the Geysers should not affect the potential for the facility to induce microseismicity in the project area and vicinity. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (G)
4.3-4:	The transfer in ownership of the Geysers should not increase the frequency and magnitude of major earthquakes. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
Water	<u>c</u>					
4.4-1:	The divestiture of the power plants would involve only minor construction at the plants. Therefore, no significant impacts to water resources from construction activities are anticipated. (Less than Significant)	NS	NS (L)	NS (E)	NS (E)	NS (E)
4.4-2:	The project could increase the amount of water used at, and discharged from, the plants. (Less than Significant)	NS	NS(L)	NS (L)	NS (G)	NS (E)
<u>Air Q</u>	<u>uality</u>					
4.5-1:	The project may result in an increase in criteria air pollutant emissions in the affected air basins. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)

a Significance levels for the project and the alternatives reflect the levels of significance after all mitigation measures are applied.

This table presents a comparison of environmental impacts that were identified under the proposed project with each of the alternatives. Additional environmental impacts that would potentially occur under each the alternatives are presented in the text discussion.

			Alt. 2		Alt. 3
	Proposed	No	Power Plan	nt Bundling	Geysers
Impact	Project	Project	2a	2b	
4.5-2: The project may result in an increase in local concentrations of criteria air pollutants in the vicinities of the power plants. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	В
4.5-3: The project may lead to an increase in health risks in the vicinities of the power plants. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (L)
4.5-4: The project may result in the elimination of PG&E's existing voluntary FTP cleanup programs. Loss of these programs could result in nuisance effects, caused by FTP stains. (Less than Significant)	NS	NS (L)	NS (E)	NS (E)	NS (E)
4.5-5: Depending upon whether, and how, the BAAQMD modifies Regulation 9, Rule 11, the project may be inconsistent with regional air quality plans. (Significant)	S/UN	NS (L)	S/UN (L)	S/UN (G)	NS (L)
Transportation and Circulation					
4.6-1: The project could increase traffic generation. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)
4.6-2: The potential minor increases in traffic would not increase traffic safety hazards. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)
4.6-3: The potential minor increases in traffic from the project would not have an effect on emergency access and access to nearby land uses. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)
4.6-4: The project could increase demand for on-site parking. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)

a Significance levels for the project and the alternatives reflect the levels of significance after all mitigation measures are applied.

This table presents a comparison of environmental impacts that were identified under the proposed project with each of the alternatives. Additional environmental impacts that would potentially occur under each the alternatives are presented in the text discussion.

		Ali	Alt. 3	
Proposed	No	Power Plan	nt Bundling	Geysers
Project	Project	2a	2b	
S/M	NS (L)	S/M (E)	S/M (E)	NS (L)
S/M	NS (L)	NS (L)	S/M (G)	NS (L)
NS	NS (L)	NS (E)	NS (E)	NS (E)
NS	NS (E)	NS (E)	NS (E)	NS (L)
NS	NS (L)	NS (L)	NS (G)	В
NS	NS (E)	NS (E)	NS (E)	NS (E)
	S/M S/M NS NS	Project S/M NS (L) NS (L) NS (SE) NS (SE) NS (SE)	Proposed ProjectNo ProjectPower Plan 2aS/MNS (L)S/M (E)S/MNS (L)NS (L)NSNS (L)NS (E)NSNS (E)NS (E)NSNS (L)NS (L)	Project Project 2a 2b S/M NS (L) S/M (E) S/M (E) S/M NS (L) NS (L) NS (E) NS NS (E) NS (E) NS (E) NS (E) NS (E) NS (E) NS (E) NS (L) NS (L) NS (L) NS (G)

a Significance levels for the project and the alternatives reflect the levels of significance after all mitigation measures are applied.

This table presents a comparison of environmental impacts that were identified under the proposed project with each of the alternatives. Additional environmental impacts that would potentially occur under each the alternatives are presented in the text discussion.

	Proposed	No	Alt. 2 Power Plant Bundling		Alt. 3 Geysers
Impact	Project	Project	2a	2b	
<u>Hazards</u>					
4.9-1: Divestiture could advance the time at which existing hazards are remediated and therefore could advance a potential threat to worker safety or to public health should existing environmental contamination at the power plants be handled improperly. (Less than Significant)	NS (M)	NS (L)	NS (E)	NS (E)	NS (E)
4.9-2: Remediation of contaminated soils, groundwater, or building materials at the plant sites would likely occur sooner as a result of transfers of title than would be the case if the power plants were not sold. Remediation would eliminate potential future threats to public health or to the environment. (Beneficial)	В	NS (G)	B (E)	B (E)	B (E)
4.9-3: Divestiture could promote increased use of hazardous materials at the power plants. (Less than Significant)	NS	NS (L)	NS (E)	NS (E)	NS (E)
4.9-4: Divestiture could result in an increased frequency of accidents at the power plant sites. (Less than Significant)	NS	NS (L)	NS (E)	NS (E)	NS (E)
4.9-5: Divestiture could result in increased generation of hazardous waste at the power plants. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)
4.9-6: Divestiture could affect electromagnetic field strength at the power plants (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)
<u>Noise</u>					
4.10-1: Minor construction activities that could be associated with transfer of	NS	NS (L)	NS (E)	NS (E)	NS (E)

a Significance levels for the project and the alternatives reflect the levels of significance after all mitigation measures are applied.

This table presents a comparison of environmental impacts that were identified under the proposed project with each of the alternatives. Additional environmental impacts that would potentially occur under each the alternatives are presented in the text discussion.

	Proposed	No	Al Power Plan	Alt. 3 Geysers	
Impact	Project	Project	2a	2 b	
ownership would temporarily increase noise levels above existing ambient levels in the project vicinities. (Less than Significant)					
4.10-2: Potential changes in operational activities by a new owner would generate noise levels above existing ambient levels in the project vicinities. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (G)
Public Services					
4.11-1: The project would not create the need for new or substantially altered fire, police, school or other government services. Therefore, the project would not have a significant environmental impact on public services. (Less than Significant)	NS	NS (L)	NS (E)	NS (E)	NS (E)
4.11-2: The combined sale of the Contra Costa and Pittsburg Power Plants in Contra Costa County would not create the need for new or substantially altered, fire, police, school, or other government services. Therefore, the project would not have a significant environmental impact on public services. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
4.11-3: The project may affect property tax revenues in the jurisdictions of the plants to be sold. (Less than Significant)	NS	NS (L)	NS (E)	NS (E)	NS (E)
<u>Utilities and Service Systems</u>					
4.12-1: The project would not result in the need for new or substantially altered electric power systems or supplies. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)

a Significance levels for the project and the alternatives reflect the levels of significance after all mitigation measures are applied.

This table presents a comparison of environmental impacts that were identified under the proposed project with each of the alternatives. Additional environmental impacts that would potentially occur under each the alternatives are presented in the text discussion.

			Alt. 2		Alt. 3
	Proposed	No	Power Plan	nt Bundling	Geysers
Impact	Project	Project	2a	2b	
4.12-2: Potential operational changes at the plants could increase the need for public water demand at the plants. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)
4.12-3: The project could result in an increase in wastewater disposal to the public sanitary sewer systems and increase the need for wastewater treatment. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)
4.12-4: The project could result in an increase in demand for solid waste services. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (E)
4.12-5: The project could increase the need for communications systems. (Less than Significant)	NS	NS (L)	NS (E)	NS (E)	NS (E)
4.12-6: The project would not result in the need for new or substantially altered natural gas systems or supplies. (Less than Significant)	NS	NS (L)	NS (L)	NS (G)	NS (L)
<u>Aesthetics</u>					
4.13-1: Potential changes in operational activities by a new owner and minor construction activities would not produce new sources of light or glare in the project vicinity. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
4.13-2: The project would not result in the change or obstruction of scenic highway views or vistas open to the public or the creation of an aesthetically offensive site open to public view. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)

a Significance levels for the project and the alternatives reflect the levels of significance after all mitigation measures are applied.

This table presents a comparison of environmental impacts that were identified under the proposed project with each of the alternatives. Additional environmental impacts that would potentially occur under each the alternatives are presented in the text discussion.

			Alt	t. 2	Alt. 3
	Proposed	No	Power Plan	t Bundling	Geysers
Impact	Project	Project	2a	2b	
Cultural Resources					
4.14-1: Minor construction activities associated with divestiture, such as fencing to separate the retained properties from the divested plant sites, could result in impacts to subsurface cultural resources. (Less than Significant)	NS (M)	NS (L)	NS (E)	NS (E)	NS (E)
4.14-2: The continued operation of the divested plants would not affect known cultural resources. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
Recreation					
4.15-1: The project could minimally increase demand for neighborhood or regional parks or other recreational facilities. (Less than Significant)	NS	NS (L)	NS (E)	NS (E)	NS (E)
4.15-2: The project would not significantly affect existing or proposed recreational opportunities. (Less than Significant)	NS	NS (E)	NS (E)	NS (E)	NS (E)
recreational opportunities. (Less than Significant)					

a Significance levels for the project and the alternatives reflect the levels of significance after all mitigation measures are applied.

This table presents a comparison of environmental impacts that were identified under the proposed project with each of the alternatives. Additional environmental impacts that would potentially occur under each the alternatives are presented in the text discussion.

eliminate any steam stacking. In addition, the Geysers plant would operate at a higher capacity, which would lower somewhat the need for power generated by non-renewable fuels. These two alternatives coupled together are considered to be the environmentally superior alternative.

S.8 AREAS OF CONTROVERSY

Areas of controversy have been identified from written responses to the Notice of Preparation, public meetings, and the agency scoping process. With respect to the three fossil-fueled plants, these areas of controversy include the degree (if any) to which new owners would increase operations over and above the levels at which PG&E would operate in the future if it retained the plants; health effects of potential increased operations resulting from divestiture; alternatives to the continued reliance on the Potrero and Hunters Point Power Plants to supply power within the City and County of San Francisco; the manner in which the Bay Area Air Quality Management Districts Regulation 9, Rule 11 (pertaining to utility-owned steam boilers) should be amended to apply to the new owners of the three fossil-fueled plants proposed for sale, as well as the Hunters Point plant; effects of the Contra Costa and Pittsburg plants with respect to fallout type particulates and boat-washing activities connected to these two plants; and whether dispatch requirements for the Pittsburg and Contra Costa plants require selling these two plants as a single package, as PG&E proposes.

With respect to the Geysers Power Plant, areas of controversy include concern for the financial strength and operational capabilities of the new owners; the potential for increased air emissions caused by steam stacking (leading to the release of unabated steam), if operations of the new plant owner(s) and the steam field owners were not well coordinated; effects of the sale on hydrogen sulfide emissions; the proper management of hazardous wastes (which result primarily from naturally occurring constituents of the geothermal steam); effects of the sales on microseismicity in the Geysers area; the potential for legal disputes between PG&E and the new owner over clean-up responsibility to delay timely remediation of contaminated areas; the potential for the sales to increase diversions from creeks in the Geysers area; the effect of the sales on current tax revenues collected from the Geysers Power Plant; the degree (if any) to which environmental benefits would result from the Geysers units being sold to the steam field owners; and the recovery of costs (by the counties) for their future efforts to value the properties being sold for taxation purposes and any subsequent litigation over those values and tax burdens.

Certain of these areas of controversy relate more to social/economic issues or project planning issues rather than to environmental impacts of the project, and will be addressed by the CPUC as appropriate in its decision-making process. Other areas of controversy may arise during the public comment period on the Draft EIR.

TABLE S.2 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
Land Use and Planning		
4.1-1: The proposed project is consistent with adopted general plan policies, land use	Mitigation Measures Proposed as Part of Project	No
designations and zoning, and thus would not conflict with adopted environmental plans	None.	
and goals of the community where it is	Mitigation Measures Identified in This Report	
located. (Less than Significant)	None required.	
4.1-2: The four power plants being	Mitigation Measures Proposed as Part of Project	No
considered for divestiture are existing land uses that would remain in the same	None.	
locations. Therefore, the project would not disrupt or divide the physical arrangement	Mitigation Measures Identified in This Report	
of any established community. (Less than Significant)	None required.	
4.1-3: The project would not convert prime	Mitigation Measures Proposed as Part of Project	No
agricultural land to non-agricultural uses, or impair the agricultural productivity of prime	None.	
agricultural land. (Less than Significant)	Mitigation Measures Identified in This Report	
	None required.	
Population and Housing		
4.2-1: The proposed project would not induce substantial growth or concentration	Mitigation Measures Proposed as Part of Project	No
of population. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.2-2: The proposed project would not	Mitigation Measures Proposed as Part of Project	No
displace a large number of people. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	
Geologic Problems		
4.3-1: Minor construction activities resulting from the project (e.g., fences and	Mitigation Measures Proposed as Part of Project	No
site remediation) could cause soil disturbance. (Less than Significant)	None.	
disturbance. (Less than Significant)	Mitigation Measures Identified in This Report	
	None required.	
4.3-2: Potential operational changes due to the transfer in ownership of the Potrero,	Mitigation Measures Proposed as Part of Project	No
Pittsburg, and Contra Costa Power Plants	None.	
would not create geologic problems. (Less than Significant)	Mitigation Measures Identified in This Report	
	None required.	
4.3-3: The change in ownership of the	Mitigation Measures Proposed as Part of Project	No
Geysers should not affect the potential for the facility to induce microseismicity in the project area and vicinity. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.3-4: The transfer in ownership of the Geysers should not increase the frequency	Mitigation Measures Proposed as Part of Project	No
and magnitude of major earthquakes. (Less than Significant)	None.	
man Significant)	Mitigation Measures Identified in This Report	
	None required.	
Water Resources		
4.4-1: The divestiture of the power plants would involve only minor construction at	Mitigation Measures Proposed as Part of Project	No
the plants. Therefore, no significant impacts to water resources from construction	None.	
activities are anticipated. (Less than Significant)	Mitigation Measures Identified in This Report	
Significant)	None required.	
4.4-2: The project could increase the	Mitigation Measures Proposed as Part of Project	No
amount of water used at, and discharged from, the plants. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	
Air Quality		
4.5-1: The project may result in an increase in criteria air pollutant emissions in the	Mitigation Measures Proposed as Part of Project	No
affected air basins. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.5-2: The project may result in an increase in local concentrations of criteria air	Mitigation Measures Proposed as Part of Project	Less than Significant
pollutants in the vicinities of the power	None.	
plants. (Less than Significant)	Mitigation Measures Identified in This Report	
	None required.	
4.5-3: The project may lead to an increase in health risks from toxic air contaminants	Mitigation Measures Proposed as Part of Project	No
in the vicinities of the power plants. (Less	None.	
than Significant)	Mitigation Measures Identified in This Report	
	None required.	
4.5-4: The project may result in the	Mitigation Measures Proposed as Part of Project	Less than Significant
elimination of PG&E's existing voluntary FTP cleanup programs. Loss of these	None.	
programs could result in nuisance effects, caused by FTP stains. (Less than	Mitigation Measures Identified in This Report	
Significant)	PG&E will provide the buyers of the Pittsburg and Contra Costa power plants with a summary of the history of FTP emissions and claims involving these plants, and information regarding PG&E's procedures for inspecting and cleaning the boilers and stacks at these two plants to minimize FTP. The buyers of the Pittsburg and Contra Costa power plants will develop procedures for minimizing FTP emissions in future operations, and institute a program for processing FTP claims that includes, at a minimum, a point of contact for claimants and procedures for expeditiously verifying and processing claims. PG&E shall not be required to disclose attorney-client work product information to enable the buyers to satisfy this condition.	
4.5-5: Depending upon whether, and how, the BAAQMD modifies Regulation 9,	Mitigation Measures Proposed as Part of Project	Significant
Rule 11, the project may be inconsistent with regional air quality plans. (Significant)	None.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.5-5: (cont.)	Mitigation Measures Identified in This Report	
	To assure that the existing NO_X emission rate limits would apply to a new owner, BAAQMD Regulation 9, Rule 11 shall be modified so that substantially equivalent emission rate limits would apply to any new owner, or PG&E will have existing permits revised (for any fossilfueled plant that is divested) to incorporate NO_X emission rate limits, which would apply to any new owner, in substantially the form and stringency in the current BAAQMD Regulation 9, Rule 11.	
Transportation and Circulation		
4.6-1: The project could increase traffic	Mitigation Measures Proposed as Part of Project	No
generation. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	
4.6-2: The potential minor increases in	Mitigation Measures Proposed as Part of Project	No
traffic would not increase traffic safety hazards. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	
4.6-3: The potential minor increases in	Mitigation Measures Proposed as Part of Project	No
traffic from the project would not have an effect on emergency access and access to	None.	
nearby land uses. (Less than Significant)	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.6-4: The project could increase demand for on-site parking. (Less than Significant)	Mitigation Measures Proposed as Part of Project	No
101 on one parking. (Less than organically)	None.	
	Mitigation Measures Identified in This Report	
	None required.	
Biological Resources		
4.7-1: Divestiture could result in an overall loss of important species or habitat if future	Mitigation Measures Proposed as Part of Project	Less than Significant
owners were unaware of the presence and sensitivity of such biological resources. (Significant)	Provide future plant owners with informational materials and training documents in PG&E's possession concerning jurisdictional wetlands and special status species and habitats in the vicinity of the power plants to be divested.	
	Mitigation Measures Identified in This Report	
	None required.	
4.7-2: If the Section 10 Permits are not	Mitigation Measures Proposed as Part of Project	Less than Significant
issued to PG&E prior to the close of the sale or to the new owner at closing, divestiture may delay the issuance of such permits. The delay caused by divestiture may result in impacts to protected species. (Significant)	As a condition of closing the sale, the new owner will be required to obtain the reissuance of the Section 10 Permits issued to PG&E, and accept the permittee's obligations under the CESA MOU, the HCP and the Implementing Agreements. If the permits have not been issued to PG&E, the new owner will be required to resubmit and accept any obligations under, PG&E's pending applications for the Section 10 Permits, including the resubmittal of the thencurrent draft Implementing Agreement and HCP, and will seek to obtain such permits on substantially the same terms and conditions as were contained in PG&E's permit applications.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.7-2: (cont.)	Mitigation Measures Identified in This Report	
	If the Section 10 permits are not held by the new owner at closing (but have been issued to PG&E), the new owner of the Pittsburg and Contra Costa Power Plants will send a letter to the permitting agencies committing to the obligations listed in the preceding mitigation measure and state its intent to operate in the interim in accordance with their provisions. The letter will also state acceptance of the authority of the permitting agencies to enforce compliance with those obligations, and provide notification of these commitments to the plant managers.	
4.7-3: Divestiture may result in impacts to	Mitigation Measures Proposed as Part of Project	No
locally designated species of concern and other aquatic organisms. (Less than	None.	
Significant)	Mitigation Measures Identified in This Report	
	None required.	
Energy and Mineral Resources		
4.8-1: The project would not conflict with adopted energy conservation plans. (Less	Mitigation Measures Proposed as Part of Project	No
than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	
4.8-2: The project would not promote	Mitigation Measures Proposed as Part of Project	No
wasteful or inefficient use of non-renewable resources. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.8-3: The project would not result in loss of availability of known mineral resources.	Mitigation Measures Proposed as Part of Project	No
(Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	
<u>Hazards</u>		
4.9-1: Divestiture could advance the time at which existing hazards are remediated and therefore could advance a potential threat to worker safety or to public health should existing environmental contamination at the power plants be handled improperly. (Less than Significant)	Mitigation Measures Proposed as Part of Project For each plant to be divested, PG&E will prepare a Risk Assessment that conforms with guidelines of the California Department of Toxic Substances Control and the local County Health Department. Each Risk Assessment shall address all areas identified as being subject to remediation in the Phase I or Phase II Environmental Site Assessments, and will describe the contaminants, estimate their potential risks to public health or to the environment, determine any need for additional data collection, and present appropriate health risk-based and/or environmental risk-based cleanup goals. Each Risk Assessment will assess potential human health risks identified at each of the contaminated areas, based in part upon realistic future use. Mitigation Measures Identified in This Report None required.	Less than Significant
4.9-2: Remediation of contaminated soils, groundwater, or building materials at the plant sites would likely occur sooner as a result of transfers of title than would be the case if the power plants were not sold. Remediation would eliminate potential future threats to public health or to the environment. (Beneficial)	Mitigation Measures Proposed as Part of Project None. Mitigation Measures Identified in This Report None required.	No

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.9-3: Divestiture could promote increased use of hazardous materials at the power	Mitigation Measures Proposed as Part of Project	Less than Significant
plants. (Less than Significant)	PG&E shall provide the new owners with copies of all safety-related documentation.	
	Mitigation Measures Identified in This Report	
	None required.	
4.9-4: Divestiture could result in an	Mitigation Measures Proposed as Part of Project	Less than Significant
increased frequency of accidents at the power plant sites. (Less than Significant)	See Mitigation Measure 4.9-3 in the previous section, which will also act to mitigate this impact.	
	Mitigation Measures Identified in This Report	
	None required.	
4.9-5: Divestiture could result in increased generation of hazardous waste at the power	Mitigation Measures Proposed as Part of Project	No
plants. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	
4.9-6: Divestiture could affect electromagnetic field strength at the power	Mitigation Measures Proposed as Part of Project	No
plants (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
<u>Noise</u>		
4.10-1: Minor construction activities that	Mitigation Measures Proposed as Part of Project	No
could be associated with transfer of ownership would temporarily increase	None.	
noise levels above existing ambient levels in the project vicinities. (Less than	Mitigation Measures Identified in This Report	
Significant)	None required.	
4.10-2: Potential changes in operational activities by a new owner would generate	Mitigation Measures Proposed as Part of Project	No
noise levels above existing ambient levels in	None.	
the project vicinities. (Less than Significant)	Mitigation Measures Identified in This Report	
	None required.	
Public Services		
4.11-1: The project would not create the need for new or substantially altered fire,	Mitigation Measures Proposed as Part of Project	No
police, school or other government services. Therefore, the project would not have a	None.	
significant environmental impact on public services. (Less than Significant)	Mitigation Measures Identified in This Report	
services. (Less than Significant)	None required.	
4.11-2: The combined sale of the Contra	Mitigation Measures Proposed as Part of Project	No
Costa and Pittsburg Power Plants in Contra Costa County would not create the need for new or substantially altered, fire, police, school, or other government services. Therefore, the project would not have a significant environmental impact on public services. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.11-3: The project may affect property tax revenues in the jurisdictions of the plants to	Mitigation Measures Proposed as Part of Project	No
be sold. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	
Utilities and Service Systems		
4.12-1: The project would not result in the need for new or substantially altered electric	Mitigation Measures Proposed as Part of Project	No
power systems or supplies. (Less than Significant)	None.	
Significant)	Mitigation Measures Identified in This Report	
	None required.	
4.12-2: Potential operational changes at the	Mitigation Measures Proposed as Part of Project	No
plants could increase the need for public water demand at the plants. (Less than	None.	
Significant)	Mitigation Measures Identified in This Report	
	None required.	
4.12-3: The project could result in an increase in wastewater disposal to the public	Mitigation Measures Proposed as Part of Project	No
sanitary sewer systems and increase the need for wastewater treatment. (Less than Significant)	None.	
	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.12-4: The project could result in an increase in demand for solid waste services. (Less than Significant)	Mitigation Measures Proposed as Part of Project	No
	None.	
	Mitigation Measures Identified in This Report	
	None required.	
4.12-5: The project could increase the need for communications systems. (Less than Significant)	Mitigation Measures Proposed as Part of Project	No
	None.	
	Mitigation Measures Identified in This Report	
	None required.	
4.12-6: The project would not result in the need for new or substantially altered natural gas systems or supplies. (Less than Significant)	Mitigation Measures Proposed as Part of Project	No
	None.	
	Mitigation Measures Identified in This Report	
	None required.	
<u>Aesthetics</u>		
4.13-1: Potential changes in operational activities by a new owner and minor construction activities would not produce new sources of light or glare in the project vicinity. (Less than Significant)	Mitigation Measures Proposed as Part of Project	No
	None.	
	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
4.13-2: The project would not result in the change or obstruction of scenic highway views or vistas open to the public or the creation of an aesthetically offensive site open to public view. (Less than Significant)	Mitigation Measures Proposed as Part of Project	No
	None.	
	Mitigation Measures Identified in This Report	
	None required.	
Cultural Resources		
4.14-1: Minor construction activities associated with divestiture, such as fencing to separate the retained properties from the divested plant sites, could result in impacts to subsurface cultural resources. (Less than Significant)	Mitigation Measures Proposed as Part of Project	Less than Significant
	None.	
	Mitigation Measures Identified in This Report	
Significanty	PG&E shall prepare and certify its intent to comply with a program to address potential impacts to archaeological resources from PG&E actions related to the divestiture at the Potrero, Contra Costa, Pittsburg, and Geysers Power Plants, such as construction to separate the properties or soil remediation activities. The program shall include provisions in PG&E construction documents and protocols for coordination with appropriate resource agencies.	
4.14-2: The continued operation of the divested plants would not affect known cultural resources. (Less than Significant)	Mitigation Measures Proposed as Part of Project	No
	None.	
	Mitigation Measures Identified in This Report	
	None required.	

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	SIGNIFICANT AFTER MITIGATION?
Recreation		
4.15-1: The project could minimally increase demand for neighborhood or regional parks or other recreational facilities. (Less than Significant)	Mitigation Measures Proposed as Part of Project	No
	None.	
	Mitigation Measures Identified in This Report	
	None required.	
4.15-2: The project would not significantly affect existing or proposed recreational opportunities. (Less than Significant)	Mitigation Measures Proposed as Part of Project	No
	None.	
	Mitigation Measures Identified in This Report	
	None required.	